PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

June 19, 1889.—Prof. J. W. Judd, F.R.S., Vice-President, in the Chair.

The following communications were read:—

1. "The Descent of *Sonninia* and of *Hammatoceras*." By S. S. Buckman, Esq., F.G.S.

The Author reviewed the history and literature of the genus *Sonninia*, Bayle, which was founded to receive the Ammonites of the *Sowerbyi*-group, formerly classed, together with those of the *Insignis*-group, in the genus *Hammatoceras*.

The reasons why the genus *Sonninia* is not descended from *Hammatoceras*, or from *Haugia* (*Variabilis*-group), were set forth. Then, proceeding to trace out the life-history of *Pleuroceras*, *Amaltheus*, and *Sonninia*, as shown by their inner whorls, the Author arrived at the conclusion that these three genera were descended from a common source, and that they form three branches from one stem.

The development of the genus *Hammatoceras*, *sensu stricto*, was then traced out, and its descent shown to be from the genus *Deroceras*, which is in accordance with the general ideas upon the subject.

The difference in the descent of *Sonninia* and *Hammatoceras* was taken to justify the separation of the former from the latter. The genus *Sonninia* would be correctly placed in the family Amaltheidæ; while the genus *Hammatoceras* would be placed in the same family as *Stephanoceras*.

Of the numerous new species belonging to the genera *Sonninia* and *Hammatoceras*, certain forms, necessary to elaborate the ideas set forth above, were described and definitely separated. The paper also touched upon certain other facts connected with *Hammatoceras*, *Sonninia*, and cognate genera.

2. "Description of some new Species of Carboniferous Gasteropoda." By Miss Jane Donald. (Communicated by J. G. Goodchild, Esq., F.G.S.)

The Gasteropoda described in this paper have, with one exception, been collected by Mr. John Young from the Upper Limestone Series of Scotland. After discussing the characters of the genus *Orthonema*, Meek and Worthen, the following forms were described:—*Orthonema pygmæa*, n. sp.; *O.?*, n. sp.; *Murchisonia turriculata*, de Kon. (Yoredale Shales, Askrigg, Yorkshire); *M. turriculata*, var. *scotica*; and *M. compacta*, n. sp.

3. "*Cystechinus crassus*, a new Species from the Radiolarian Marls of Barbadoes; and the evidence it affords as to the Age and Origin of those Deposits." By J. W. Gregory, Esq., F.G.S.

In this paper the discovery of a species of *Cystechinus* from the Radiolarian earth of Barbadoes was recorded. The specimen is now preserved in the National Collection, South Kensington. The form was described and distinguished from the three modern species which were found during the 'Challenger' Expedition. The latter have shown that the bathymetrical range of the genus is from 1050 to 2225 fathoms.

The Author gave proofs that the specimen really came from the Radiolarian marl, and not from the overlying Coralline limestone, and after discussing the age of the marl, as inferred by Prof. E. Forbes from an examination of the Mollusca, and by Prof. Haeckel after studying the Radiolaria, gave his reasons for supposing that it is in reality more modern than these authors supposed, and may be referred to the Pliocene or Pleistocene.

Though *Cystechinus crassus* possessed plates of greater thickness than those of the previously described species, the ambulacra were apetaloid, and the Author concluded that though an inhabitant of seas of less depth than those in which the modern forms occur, it may be fairly considered to have been a dweller in deep seas, and to indicate that the Radiolarian deposit is a true deep-sea ooze.

MISCELLANEOUS.

A new Marine Larva and its Affinities.

By J. Walter Fewkes *.

[Plate VII. fig. 4.]

There are in the waters of the Atlantic, near the coast of the United States, a large number of marine larvæ, very different from characteristic larvæ of the European seas, of the adult state of which the naturalist is in profound ignorance †. The adults of these larvæ may have been described and figured, and may be well known, but from the fact that many young marine animals are so different from the adults their relationship is unsuspected, although both mature and immature stages are known. It is certainly a desirable thing to trace these larvæ to their parents as a part of the great study of the metamorphosis of marine animals. This special line of zoological work has many attractions to an earnest band of working naturalists,

* From 'The Microscope' for June 1888.

† Conversely also we are ignorant of the young of a much larger number of adult animals of our seas and bays.